JCCC Begins Polysomnography/ Sleep Technology Program

Michael Riley, registered sleep technician and consultant, JCCC polysomnography/sleep technology program, uses a 10/20 system of scalp electrode placement on patient Doris Wilson as Bibiana Wrigley looks on.

New Degree

Cover: Dr. Clarissa Craig, assistant dean, respiratory care, oversees JCCC's new associate's degree in polysomnography/ sleep technology.

As sleep medicine has become a recognized medical subspecialty, sleep centers have turned down the sheets and welcomed people with suspected sleep apnea, restless leg syndrome, narcolepsy and a myriad of other sleep disorders. There are 16 sleep disorder centers and labs in Kansas, 12 in Missouri – seven of the 28 are in the Kansas City Metro area. To meet the growing demand for sleep studies (polysomnograms), JCCC will offer an associate's degree in polysomnography/sleep technology beginning fall 2008.

According to Dr. Clarissa Craig, assistant dean, respiratory care, sleep medicine has come to the forefront for two reasons: one, evidence that sleep disorders correlate to medical conditions like heart attacks, strokes, high blood pressure, diabetes and obesity; and two, private health insurance providers that now provide reimbursement for sleep services.

Historically, other health care workers (nurses or respiratory therapists) or people who have had on-the-job training have taken on the role of sleep lab technicians.

"But this is a profession that requires its own set of skills, knowledge and expertise," Craig said.

For the 50 to 70 million Americans who find soothing slumber to be the fantasy of lullabies, science has uncovered the mechanics of a seemingly simple act. People who have trouble sleeping (or conversely staying awake the next day) may stop breathing numerous times at night, their brain and eye movements may lack the rapid-eye-movement of dream-inducing sleep or their limbs may violently twitch.

Working under a physician's supervision, PSG technologists evaluate patients using non-invasive monitoring equipment to watch for irregularities in REM brain waves, oxygen and carbon dioxide levels, breathing variables, heart rates and leg movement; interpret sleep stages; and titrate appropriate therapies like Continuous Positive Airway Pressure (CPAP) – all during a 12-hour night's sleep study.

"Even in the first semester, students will

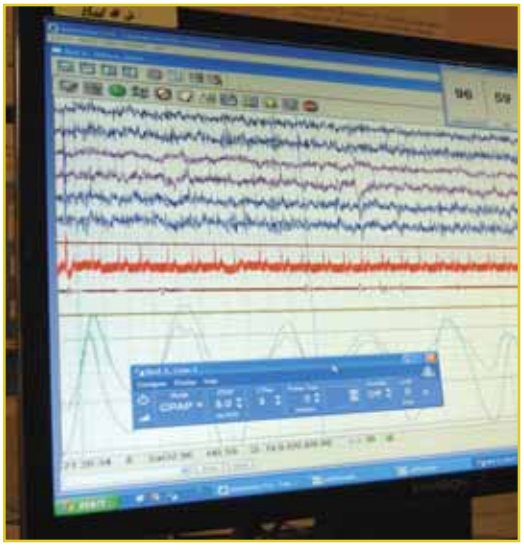
complete observational experiences in sleep labs so they understand the hours and the work," Craig said.

JCCC received grants from the Kansas State Technical Education Technology and Equipment Grant and the Kansas Innovative Technology Grant to outfit the respiratory lab with the sophisticated equipment for three complete sleep-study systems (lots of monitors and wires with three-letter abbreviations, like EEG, EOG, ECG and EMG, that connect to the chest, head and legs) and help pay a registered sleep technician, Michael Riley, to implement the program. Part of Riley's job will be to secure affiliations for students' clinical experiences.

Right now, PSG technologists are not required to have an associate's degree or registration in Kansas or Missouri. Registered polysomnographic technologists (RPSG), certified by the Board of Registered Polysomnographic Technologists, are mandated in some states and preferred by local sleep centers. Students who complete the JCCC program will be prepared to sit for the BRPT exam, according to Craig.

"There are only a handful of associate degree programs in polysomnography at community colleges and university medical centers in the United States," Craig said. "There are none in the metropolitan area; the nearest is in Iowa. Students who graduate from our program will have a good formal education and be a hot commodity in the job market."

Craig says ideal candidates for the profession should possess skills in science, technology, attention to detail, communication and have a desire to help patients.



During a sleep study, monitoring measures REM brain waves, oxygen and carbon dioxide levels, breathing variables, heart rates and leg movement.

Bibiana Wrigley reviews electrode wire placement on patient Doris Wilson prior to a sleep study.

Michael Riley, registered sleep technician, scores data from a previous night's study as Patricia Pope and Bibiana Wrigley look on.